

REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claims 1, 5 and 7 have been amended to recite specific amounts of tocopherol and rutin. Support for these amendments can be found on page 13, lines 18-21 and page 14, lines 9-12 of the specification. Accordingly, the rejections of claims 1, 3-5, 7, 9 and 10 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement and for failing to enable for any and all amounts of tocopherol and rutin, have been rendered moot by the amendments to claims 1, 5 and 7.

Claims 1, 5 and 7 have also been amended to incorporate the subject matter of claim 3, in light of which claim 3 has been cancelled.

New claims 11, 14 and 17 have been added to clarify that the photodegradation is caused by irradiating light from a fluorescent lamp. Support for these claims can be found on page 8, lines 8-15 of the specification.

New claims 12 and 15 have been added to recite a lower limit of the ratio of milk fat/total fat. Support for these claims can be found in Tables 4-7 of the specification.

New claims 13, 16 and 18 have been added to further define the emulsifier. Support for these claims can be found on page 12, lines 2-8, and page 48, lines 18-23 of the specification.

The patentability of the present invention over the disclosures of the references relied upon by the Examiner in rejecting the claims will be apparent upon consideration of the following remarks.

The rejection of claims 1, 3-5, 7, 9 and 10 under 35 U.S.C. §103(a) as being unpatentable over Bundus (US 3,488,198) as further evidenced by Potter (Food Science, Second Edition, The Avi Publishing Company, p. 347, 1973) and Swern (Bailey's Industrial Oil and Fat Products, vol. 1, John Wiley and Sons, pp. 315 and 318, 1979), and further in view of Hasler-Nguyen (US 7,452,549), is respectfully traversed.

The object of the present invention is to provide an oil-in-water type emulsion for light-exposing food, which exhibits photodegradation-resistance, less deterioration in properties such as off-taste and off-flavor, even when irradiating light from a fluorescent lamp is applied, and which has excellent taste (page 4, lines 17-22 of the specification).

The object of Bundus is to prepare an improved filled milk having full flavor and a rich mouth feel (column 1, lines 32-35).

Hasler-Nguyen discloses antioxidant compositions comprising a combination of tocots and polyphenolic compounds to be used for treating or preventing disorders caused by free radicals, such as those relating to coronary heart disease, cancer and rheumatism (column 1, lines 7-13). Thus, the object of Hasler-Nguyen is to provide an antioxidant for treating or preventing disorders by preventing oxidization of low density lipoprotein (LDL).

Therefore, the objectives of the Bundus and Hasler-Nguyen inventions are completely different from the objective of the present invention. Furthermore, the object of Bundus is also completely different from that of Hasler-Nguyen. Further, Hasler-Nguyen relates to antioxidants for treating or preventing disorders and the present invention relates to an oil-in-water type emulsion for light-exposing food having photodegradation-resistance. Thus, the field of the invention of Hasler-Nguyen is also completely unrelated to the art of the present invention. Therefore, a person having ordinary skill in the art would have never combined the completely unrelated disclosures of Bundus and Hasler-Nguyen in an attempt to achieve the present invention. Further, a person having ordinary skill in the art would have never considered the Hasler-Nguyen reference when attempting the present invention, since it concerns a completely unrelated art.

Further, the present invention is directed to preventing photodegradation of an oil-in-water type emulsion comprising fat and nonfat milk solids by using non-milk fat having a specific fatty acid composition, tocopherol and rutin. Thus, the oil-in-water type emulsion of the present invention exhibits photodegradation-resistance.

Bundus fails to teach or suggest photodegradation. Thus, even if the filled milk of Bundus potentially had photodegradation-resistance, a person having ordinary skill in the art would still never have had the idea of preventing photodegradation when reading Bundus.

The Potter and Swern references also fail to suggest photodegradation, and further fail to suggest the presence of tocopherol and rutin, as discussed heretofore.

Therefore, even if the cited references were combined, a person having ordinary skill in the art would still have never arrived at the present invention, which directed to a light-exposing food having photodegradation-resistance properties.

In addition, it is technical common sense to a person having ordinary skill in the art that photodegradation is different from conventional lipid oxidation (as in Hasler-Nguyen). See the attached “Theory and practice of fried foods” and its partial English translation (hereinafter referred to as “Ohta”), which provides evidence that the mechanism for heat degradation and the mechanism for photodegradation are different (see partial English translation of page 224). Therefore, even if Bundus and Hasler-Nguyen were combined, there would still not have been a suggestion regarding photodegradation resistance from these references.

Thus, based on the above, clearly the present invention of claim 1 is nonobvious over the references cited by the Examiner.

Further, the method of claim 5 has been amended to clarify that the prepared oil-in-water type emulsion prevents photodegradation-resistance without prevention of photodegradation with packaging. As discussed above, conventional lipid oxidation (as in Hasler-Nguyen) is completely different from photodegradation. Thus, clearly, none of the references cited by the Examiner teach or suggest a method of preventing photodegradation of an oil-in-water type emulsion, wherein the prepared oil-in-water type emulsion has photodegradation-resistance without prevention of photodegradation with packaging.

Based on the above, clearly the present invention of claim 5 is nonobvious over the references cited by the Examiner.

Further, with regard to new claims 11, 14 and 17, Ohta describes that “the deterioration of flavor results from the photooxidation with the fluorescent lamp even if a comparatively low peroxide value is shown” (see English translation of page 258, emphasis added). However, the present invention provides an oil-in-water type emulsion having resistance to photodegradation caused by irradiating light from a fluorescent lamp. Therefore, a person having ordinary skill in the art would have clearly expected flavor deterioration from the teachings of the art and therefore would not have predicted the effects of the inventions of claims 11, 14 and 17.

Regarding new claims 12 and 15, the oil-in-water type emulsion of these claims contains milk fat. The specification discloses that “[f]or the oil-in-water type emulsion and the whippable oil-in-water type emulsion, it is preferable to contain milk fat whenever possible from the viewpoint of taste” (page 12, lines 14-16 of the specification). In fact, the oil-in-water emulsions in Examples 10-36 of the specification all contain milk fat.

On the other hand, Bundus describes a filled milk in which skim milk and vegetable oil are mixed. A person having ordinary skill in the art would never think to add milk fat to the filled milk of Bundus, since filled milk is a “mixture containing non-fat milk solids and vegetable fat simulating whole milk or cream” (col. 1, lines 18-19). Therefore, a person having ordinary skill in the art would never have arrived at the inventions of claims 12 and 15 from the teachings of Bundus, which purposely excludes milk fat. The other references cited by the Examiner fail to remedy the deficiencies of Bundus.

Regarding new claims 13, 16 and 18, the emulsifier of the present invention is a polyglycerol fatty acid ester composed of a saturated fatty acid. The specification discloses that “from the viewpoint of less deterioration as off-taste and off-flavor by photo-irradiation, an emulsifier free from an unsaturated fatty acid as a constituent fatty acid, for example, a polyglycerol fatty acid ester composed of a saturated fatty acid is preferably used” (page 12, lines 3-8 of the specification). On the other hand, Bundus only discloses monoglycerol ester (col. 1, lines 58-66). Thus, a person having ordinary skill in the art would clearly never have arrived at the inventions of claims 13, 16 and 18 from the Bundus reference, which fails to suggest a polyglycerol fatty acid ester composed of a saturated fatty acid. The other references cited by the Examiner also fail to remedy these deficiencies.

Accordingly, the references cited by the Examiner clearly fail to suggest each and every limitation of the present claims and therefore, this rejection has been overcome and should be withdrawn.

Conclusion

Therefore, in view of the foregoing amendments and remarks, it is submitted that each of the grounds of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

Hiroyuki ICHIYAMA et al.

/Chao Gao/

By 2011.07.08 09:39:34 -04'00'

Chao Gao
Registration No. 65,313
Attorney for Applicants

WMC/CG/nek
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
July 8, 2011

Attachments:

Ohta, Theory and practice of fried foods
(with partial English translation)